

**GMI SCIENCE TEAM MEETING
OCTOBER 11-13, 2006
GREENBELT, MD**

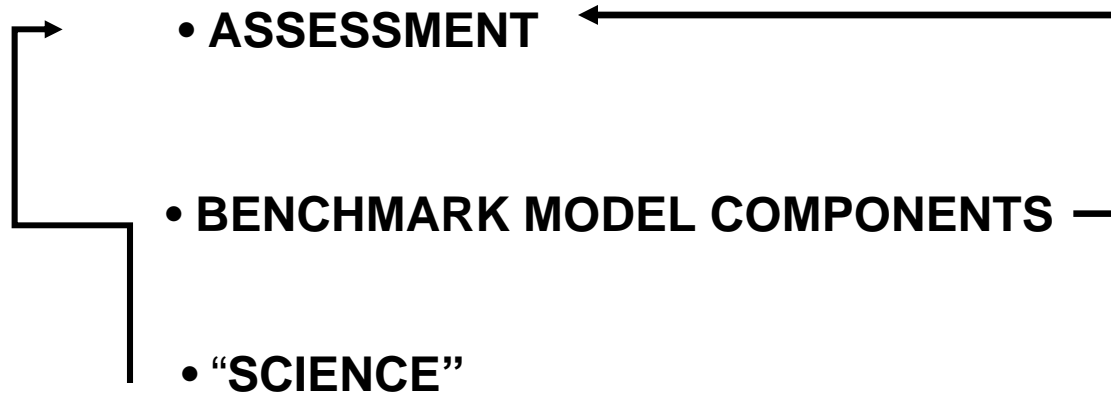
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FOCI FOR GMI ACTIVITIES



ASSESSMENT ACTIVITIES

- **WMO Stratospheric Ozone Report, 2007**
- **Papers contributing to IPCC, 2007 (GMI contribution to at least 5 of these manuscripts)**
- **Upcoming long-range transport assessment?**
- **Aircraft? (Boston meeting in June, 2006).**

BENCHMARKING

- **Different meteorological fields**
- **Different aerosol modules**
- **Different chemical mechanisms?**
- **Sensitivity to model resolution?**
- **NEED TO FOCUS AND SUMMARIZE THIS AREA.**

“SCIENCE”

- **Activities in this area are (mostly) what gets into peer-reviewed journals!**
- **Stratospheric analysis: Strahan, Douglass, Considine.**
- **Aerosol intercomparison: Penner, Liu, Nenes**
- **COMBO simulations**
 - **CO tape recorder (Schoeberl & Duncan)**
 - **AURA Analysis (UT/LS) Posters at AURA meeting, IGAC meeting, presentation at SPARC meeting.**
- **Future interaction with chemistry-climate coupled model, GEOS-5**
- **Other future activities?**

GOALS FOR THIS MEETING

- **Identify publications and schedule (COMBO, troposphere, aerosols).**
- **Establish mechanism for dissemination of model output to community**
 - **Depository, software.**
- **Focus future work on CTM-ESMF and CTM componentization.**
- **Map further model integration/activities for the coming year**
 - **Specific problems and relation to other programs**
 - **What have you been funded to do?**
- **Evaluate support needed from “core” institution (SIVO/Goddard)**
 - **Mix of skills**
 - **Response to needs of team members**
 - **Response to community needs.**
- **Resolve specific issues taking advantage of people present here:**
 - **Wrap-up coupled aerosol/gas phase modeling.**
 - **Finish implementing latest version of FastJx.**
 - **Other?**

MISCELLANEA

- **PLEASE TRANSFER YOUR PRESENTATION TO LAPTOP CONNECTED TO PROJECTOR**
- **GROUP DINNER TOMORROW? “TASTE OF MOROCCO”, SILVER SPRING**
HEAD COUNT?

SOME ISSUES FOR DISCUSSION IN COMBO GROUP

- OUTLINE PUBLICATIONS – FIRST AUTHORS – SCHEDULE
 - TRY FOR AURA SPECIAL ISSUE? (MARCH 1)
- FURTHER “IMPROVEMENTS” TO COMBO MODEL **RED WILL BE VERSION 2**
 - **WATER – RICH, ANNE, DAVID**
 - **EMISSION INVENTORIES – JENNIFER, BRYAN.**
 - **CHECK LAND-WATER INDEX IN GEOS-4 DAS; SOIL NOX.**
 - **RN TRANSPORT? – HONGYU, OTHERS**
 - **MAKE CHEMISTRY MORE EFFICIENT?**
 - **MODEL VERTICAL RESOLUTION, AVERAGING KERNELS, MODEL SAMPLING**
 - **LIGHTNING - PICKERING**
 - **CO BIAS IN TROPOSPHERE (TOMORROW?) – GEOS/CHEM? OTHER DIFFERENCES**
 - **HARVARD ET AL.**
 - **OTHER MET. FIELDS? – CONTINUE GEOS-DAS FIELDS**
 - **H2 CHEMISTRY-EASY TO FIX - DAVID**
 - **JPL – 06 -STEVE**
 - **VERSION CONTROL**
 - **LANGLEY CHEMICAL MECHANISM**
 - **FASTJX**
 - **AEROSOLS**
 - **WET SCAVENGING – VERY LOW LEAD 210**
 - **FORECAST WIND FIELDS – BRYAN ET AL.**
 - **TAGGED CO EMISSIONS**
- **DISCUSS SPECIFICS ON DATA AVAILABILITY, READERS, ETC. – ANNE, JOANNA, MARK, SUSAN**

PUBLICATIONS

- **COMPARISON OF OZONE NEAR TROPOPAUSE (SONDES) – DAVID**
 - 5-YEAR 4X5 DAILY OZONE
 - ADD TEMPERATURE
 - 6 MONTHS.
- **COMPARISON OF CHEMICAL MECHANISMS - DAVID**
 - INCORPORATE CHEMICAL MECHANISM
 - DO RUNS
 - TALK TO JOYCE
- **EVALUATION OF FVGCM UT/LS – STRAHAN**
 - 3 MONTHS
- **BIOMASS BURNING IMPACT ON UT/LS - BRYAN**
- **AURA-RELATED**
 - VALIDATE DAS CALCULATIONS
 - NON-VALIDATION ANNE, RICH, JENNIFER
 - STUFF SHOWN BY RICH
 - COMPARISONS BY JENNIFER (RESOLUTION, ...)
 - VALIDATION ISSUE?
 - HRDLS VS. MLS (ANNE)
 - TROPOSPHERIC OZONE COLUMN (MARK)
 - NO2 COMPARISONS – BRING SATELLITE AND AIRCRAFT, REPRESENTATIVENESS
 - N2O BLOB

TROPOSPHERE ISSUES

- Updates from GEOS-CHEM:
 - Incorporation of new emission inventories
 - Anthropogenic and GFED2 for biomass burning
- Other updates, fixes
 - Updated lightning in Combo, needs to be run
 - Fix soil NO_x emissions in 2x2.5 combo ASAP
 - Update rates to JPL-06
- Check consistency between GEOS-CHEM and GMI.
 - Compare runs for same year
- Why are FVGCM and DAS so different for CO
 - Needs analysis
- Time frame for incorporating new fields? ECMWF from Prather for 2000 on.
 - Do regridding at GSFC
 - Check that regridded fields are OK with Prather
 - Also, run 2006 DAS, save 1x1.25?
- Long-range transport
 - Use tropospheric versions
 - Rokjin will analyze run

papers

- **Papers:**
- **Dale and Ken – lightning in three trop 4x5 runs, DAO, GISS, FVGCM**
- **Bryan – CO, transport to UT/LS**
- **Jennifer – trop. ozone in 2x2.5 COMBO DAS, in-situ and TES comparisons**
- **Trop. with different met fields, CO/ozone etc, Middle East differences, CO differences – needs lots of analysis**
 - **FVGCM 4x5, 2x2.5 combo, DAS 4x5 trop., DAS 2x2.5 combo,**

AEROSOL

- **GOCART – GMI DIFFERENCES, WHERE DO WE GO NEXT?**
 - **WRITING IT UP?**
 - **MODIFICATIONS TO CODE?**
 - **ALGORITHM FOR EMISSIONS (DUST, SEASALT?)**
- **STRATEGY FOR FINISHING COUPLED GAS-PHASE/AEROSOL**
 - **SETTLE MIE CALCULATIONS FOR FASTJX**
 - **SET UP INTERACTION BETWEEN MICHIGAN/PPNL/GODDARD**
- **MICROPHYSICS?**
- **OTHER MANUSCRIPTS?**
- **FUTURE IMPLEMENTATIONS**
 - **Cloud activation – microphysics; interactive?**
 - **AEROCOM emissions**